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(54) Apparatus for the self-production of cigarettes

(57) An apparatus (1) for the self-production of a cigarette using a pre-fabricated cigarette paper tube (5) and loose fine-cut tobacco (11) comprises an outer sleeve (2) to accommodate the cigarette paper tube (5) and to support the tube (5) over at least a portion of its length. A funnel (3) which cooperates with the outer sleeve (2) is also provided to funnel loose tobacco (11) placed within it into the cigarette paper tube (5) inserted into the outer sleeve (2). In use, the tobacco (11) can be shaken into the cigarette paper tube (5) by the administration of a series of jolts or raps to an end (7) of the tube (5) protruding from the outer sleeve (2), for example by tapping the end (7) on a hard surface. A pusher means (4) may also be provided for pushing tobacco down the funnel (3) and into the cigarette paper tube (5).

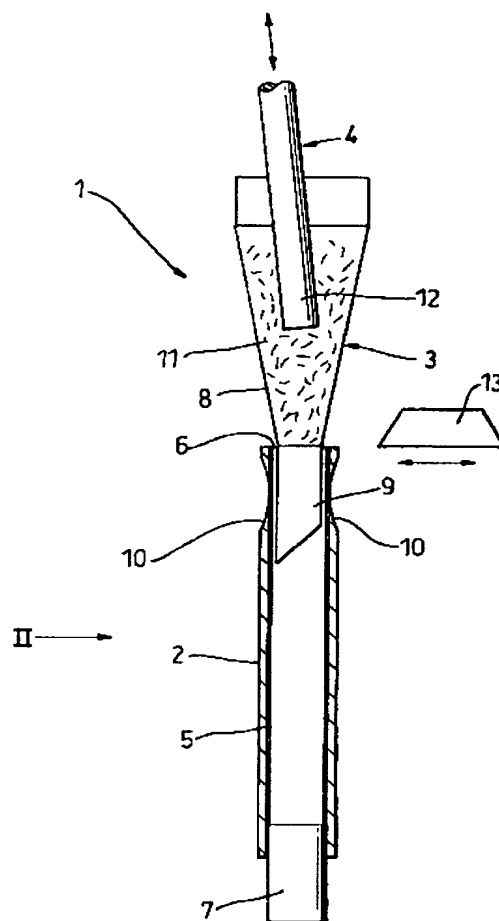


Fig. 1

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Description

[0001] The present invention relates to an apparatus for the self-production of cigarettes.

[0002] Conventionally, self-produced cigarettes are made using cigarette paper leaves which have gum applied to one edge. After spreading fine-cut loose tobacco onto the cigarette paper, the smoker makes the cigarette by rolling up the paper and gumming it to itself to form a cigarette paper tube which encases the tobacco. However, the production of satisfactory cigarettes by this method requires some manual skill and is time-consuming. Also, tobacco tends to be wasted.

[0003] Another method involves the filling of empty cigarette paper tubes with tobacco using various devices or apparatus, for example as described in DE 34 27 480. These devices typically comprise an elongate pressing chamber which is defined by a semi-circular wall and an opposite semi-circular surface of a movable pressing member. The pressing chamber is closed by the pressing member after having been charged with tobacco. At one end of the pressing chamber is a funnel over the end of which an empty tubular cigarette wrapper is mounted. A plunger is provided at the other end of the chamber by means of which the tobacco can be transferred from the pressing chamber into the cigarette wrapper.

[0004] Such devices are satisfactory in that they provide a cigarette which is similar in many respects to a factory made cigarette. However, they are bulky and can be slow to use.

[0005] The object of the present invention is to provide an apparatus for the self-production of cigarettes which is easily portable and which is simple to use.

[0006] According to the present invention there is provided an apparatus for the self-production of a cigarette using a pre-fabricated cigarette paper tube and loose fine-cut tobacco, characterised in that it comprises an outer sleeve to accommodate and to support a cigarette paper tube over at least a portion of its length, and a funnel which cooperates with the outer sleeve and acts to funnel loose tobacco placed within it into a cigarette paper tube inserted into the sleeve.

[0007] Using such an apparatus, loose tobacco placed within the funnel can be shaken into the cigarette paper tube by the administration of a series of jolts or raps to a lower end of the cigarette paper tube protruding from or level with a lower end of the outer sleeve. Such jolts or raps can be administered by gently tapping the cigarette paper tube on a hard surface such as a table top. By this means, the tobacco is not only shaken into the cigarette paper tube from the funnel but also compacted in the tube by being knocked down the tube. This ensures that the tobacco is evenly distributed throughout the cigarette paper tube and reduces the likelihood of pockets which are substantially void of tobacco being formed. For ease of use, the user should preferably employ cigarette paper tubes with an integral filter tip as

this prevents tobacco falling out of the lower end of cigarette paper tube during use of the apparatus.

[0008] Preferably, the funnel tapers to a short tube defining a diameter such that it can be inserted into the outer sleeve.

[0009] Preferably also, the short tube of the funnel can be inserted into one end of a cigarette paper tube for use with the apparatus to form an inner sleeve therefor.

[0010] Preferable also, the inner diameter of the short tube is between 5.5 mm and 7 mm inclusive.

[0011] Preferably also, the volume of the funnel is commensurate with the volume of loose, uncompacted tobacco required to fill a conventional cigarette paper tube.

[0012] Preferably also, the outer sleeve has a length which is at least as long as the length of a conventional cigarette paper tube.

[0013] Preferably also, the outer sleeve defines one or more openings through which an end of a cigarette paper tube inserted therein can be gripped for retention within the outer sleeve.

[0014] Preferably also, the opening or openings in the outer sleeve are sufficiently close to one end of the sleeve to enable the cigarette paper tube to be gripped around the short tube of the funnel when inserted into the one end of the cigarette paper tube.

[0015] Alternatively or in addition, the outer sleeve comprises a flexible material in order that an end of a cigarette paper tube inserted therein can be gripped by flexing the outer sleeve into contact with the cigarette paper tube.

[0016] Advantageously, a pusher means is provided for pushing tobacco down the funnel and into a cigarette paper tube located within the outer sleeve.

[0017] Preferably also, the pusher means comprises a cylindrical portion of similar cross-sectional proportions to that of the cigarette paper tube in order that after the cigarette paper tube has been filled and before it is removed from the apparatus, the tobacco at the upper open end of the cigarette paper tube can be tamped down so that no tobacco protrudes from the open end.

[0018] Preferably also, the cylindrical portion of the pusher means has a diameter which is between 4 mm and 5 mm.

[0019] Preferably also, knife means are provided to enable the tip of an open end of a filled cigarette paper tube to be trimmed off.

[0020] The present invention will now be described by way of example with reference to the accompanying drawings, in which:-

Fig. 1 is a schematic longitudinal cross section of an apparatus according to the present invention; and

Fig. 2 is a side view of the apparatus in the direction of arrow II in Fig. 1.

[0021] As apparatus 1 as shown in the drawings comprises an outer sleeve 2, a funnel 3 and a pusher means 4. The outer sleeve 2 comprises a cylindrical receptacle that has an internal diameter commensurate with that of a conventional cigarette in order that a prefabricated cigarette paper tube 5 can be readily inserted therein. The sleeve 2 supports the tube 5 over at least the majority of its length so that with its open end 6 pushed into the sleeve 2 only a small length of its other end 7, which in this example is closed by a filter tip, protrudes from the sleeve 2, as shown in the drawings. Preferably, however, to protect the filter tip during the filling process, the sleeve 2 is the same length as or slightly longer than the cigarette paper sleeve 5.

[0022] The funnel 3 comprises a tapering body 8 which terminates in a short tube 9 that has a diameter such that it can be inserted into the outer sleeve 2. Preferably, however, the short tube 9 is dimensioned such that it can be inserted into the end 6 of a cigarette paper tube 5 inserted into the sleeve 2. The short tube 9 thereby forms a short inner sleeve with respect to the cigarette paper tube 5.

[0023] If the outer sleeve 2 is made of a rigid material, for example metal or rigid plastic, then it should define one or more finger openings 10 at one end through which the open end 6 of a cigarette paper tube inserted therein can be gripped for retention within the sleeve. Preferably, in this case the opening or openings 10 are located sufficiently close to one end of the sleeve to enable the cigarette paper tube to be gripped around the inner sleeve formed by the short tube 9 of the funnel 3. In this way, the outer sleeve 2, the funnel 3 and a cigarette paper tube 5 inserted into the sleeve 2 can all be held in position by one hand. This leaves the other hand of the user free to fill the funnel 3 with tobacco 11, as is explained below.

[0024] However, it will be appreciated that if the outer sleeve 2 is made of a flexible material, such as a flexible plastics, strong paper, card or the like, then the openings 10 can be dispensed with as the end 6 of the cigarette paper tube 6 inserted therein can be gripped around the inner sleeve 9 by simply flexing the sleeve 2 into contact with the cigarette paper tube 6.

[0025] Although loose tobacco 11 placed within the funnel 3 can be shaken into the cigarette paper tube 6 by gently tapping either the protruding end 7 of the tube 5 or the lower rim of the sleeve 2 against a hard surface such as a table top, preferably the pusher means 4 is also provided to enable the user to push the tobacco 11 down the funnel 3. The pusher means 4 comprises at least a cylindrical end portion 12 of similar cross-sectional proportions to that of the cigarette paper tube 5 in order that after the cigarette paper tube has been filled and before it is removed from the sleeve 2, the tobacco at the open end 6 can be tamped down so that no tobacco protrudes therefrom. Preferably, the cylindrical end portion 12 of the pusher means 4 has a diameter between 4 mm and 5 mm inclusive. This is just smaller

than the inner diameter of the tube 9, which preferably made between 1.5 mm and 2 mm larger.

[0026] Hence, in use a user wishing to manufacture a cigarette will insert the open end 6 of a cigarette paper tube 5 into the outer sleeve 2 and then insert the short tube 9 of the funnel 3 into the end 6 of the tube 5 within the sleeve. The apparatus can then be held in one hand with the cigarette paper tube 5 orientated substantially vertically by gripping the tube 5 at its end 6 around the inner sleeve formed by the tube 9 either through the openings 10 in the sleeve 2 or by flexing the sleeve 2 into contact with the tube 5. A quantity of tobacco 11 can then be introduced into the funnel 3, the user utilizing his free hand to do this. In order that sufficient tobacco 11 can be placed in a single operation into the funnel, Preferably, the volume of the funnel is commensurate with the volume of loose, uncompacted tobacco required to fill a conventional cigarette paper tube. Gentle tapping of the protruding filter tip end 7 of the tube 5 against a hard surface will now shake much of the tobacco 11 down the funnel 3 into the tube 5. However, this process can be assisted by using the pusher means 4 to push the tobacco 11 into the tube 5 and to compact the tobacco 11, as aforesaid, particularly at the end 6 of the tube. Once filled, the cigarette paper tube 5, which now forms part of a smokable cigarette, can be removed from the sleeve 2 for use.

[0027] However, although the pusher means 4 can be used to consolidate the tobacco 11 in the open end 6 of the cigarette paper tube 5, it is likely that the end 6 will have a ragged appearance which detracts from the fact that the cigarette is otherwise similar in appearance and smoking quality to a mass-produced factory cigarette. To remedy this, the open end 6 of the cigarette can be trimmed off. To this end, a knife means 13 such as a guillotine or scissor arrangement, similar to a cigar cutter, can be provided as an accessory to trim off the top of the cigarette cleanly after manufacture.

[0028] In addition, to assist the user in placing the correct quantity of loose tobacco in the funnel 3, it is proposed that pre-packaged quantities of tobacco that correspond to the amount required to fill a conventional cigarette will be supplied for use with the apparatus. Such tobacco may be offered in pre-packaged pouches, bags or boxes to facilitate use of the apparatus and to ensure neither too much nor too little tobacco is used to charge the apparatus. Also, because the cigarette paper tubes used with the apparatus will also vary with regard to the quantity of tobacco that they hold dependent upon their diameter and the overall length of the filter tip, the pre-packaged quantities of tobacco can be tailored for use with different types of commercially available cigarette paper tubes.

Claims

1. An apparatus (1) for the self-production of a ciga-

- rette using a pre-fabricated cigarette paper tube (5) and loose fine-cut tobacco (11),
characterised in that
 it comprises an outer sleeve (2) to accommodate and to support a cigarette paper tube (5) over at least a portion of its length, and a funnel (3) which cooperates with the outer sleeve (2) and acts to funnel loose tobacco (11) placed within it into a cigarette paper tube (5) inserted into the outer sleeve (2).
2. An apparatus (1) as claimed in Claim 1,
characterised in that
 the funnel (3) tapers to a short tube (9) defining a diameter such that it can be inserted into the outer sleeve (2).
 3. An apparatus (1) as claimed in Claim 2,
characterised in that
 the short tube (9) of the funnel (3) can be inserted into one end (6) of a cigarette paper tube (5) for use with the apparatus (1) to form an inner sleeve therefor.
 4. An apparatus (1) as claimed in Claim 3,
characterised in that
 the inner diameter of the short tube (9) is between 5.5 mm and 7 mm inclusive.
 5. An apparatus (1) as claimed in any of Claims 1 to 4,
characterised in that
 the outer sleeve (2) has a length which is at least as long as the length of a conventional cigarette paper tube (5).
 6. An apparatus (1) as claimed in any of Claims 1 to 5,
characterised in that
 the volume of the funnel (3) is commensurate with the volume of loose, uncompacted tobacco required to fill a conventional cigarette paper tube (5).
 7. An apparatus (1) as claimed in any of Claims 1 to 6,
characterised in that
 the outer sleeve (2) defines one or more openings (10) through which an end (6) of a cigarette paper tube (5) inserted therein can be gripped for retention within the outer sleeve (2).
 8. An apparatus (1) as claimed Claim 7 when dependent on Claim 3,
characterised in that
 the opening or openings (10) in the outer sleeve (2) are sufficiently close to one end of the sleeve (2) to enable the cigarette paper tube (5) to be gripped around the short tube (9) of the funnel (3) when inserted into the one end (6) of the cigarette paper tube (5).
 9. An apparatus (1) as claimed in any of Claims 1 to 8,
characterised in that
 the outer sleeve (2) comprises a flexible material in order that an end (6) of a cigarette paper tube (5) inserted therein can be gripped by flexing the outer sleeve (2) into contact with the cigarette paper tube (6).
 10. An apparatus (1) as claimed in any of Claims 1 to 9,
characterised in that
 a pusher means (4) is provided for pushing tobacco down the funnel (3) and into a cigarette paper tube (5) located within the outer sleeve (2).
 11. An apparatus (1) as claimed Claim 10,
characterised in that
 the pusher means (4) comprises a cylindrical portion (12) of similar cross-sectional proportions to that of the cigarette paper tube (5) in order that after the cigarette paper tube (5) has been filled and before it is removed from the apparatus (1), the tobacco at an open end (6) of the cigarette paper tube (5) can be tamped down so that no tobacco protrudes from the open end (6).
 12. An apparatus (1) as claimed in Claim 11,
characterised in that
 the cylindrical portion (12) of the pusher means (4) has a diameter which is between 4 mm and 5 mm.
 13. An apparatus (1) as claimed in any of Claims 1 to 12,
characterised in that
 knife means (13) are provided to enable the tip of an open end (6) of a filled cigarette paper tube (5) to be trimmed off.
 14. The use of a prepackaged quantity of tobacco with an apparatus as claimed in any of Claims 1 to 13.

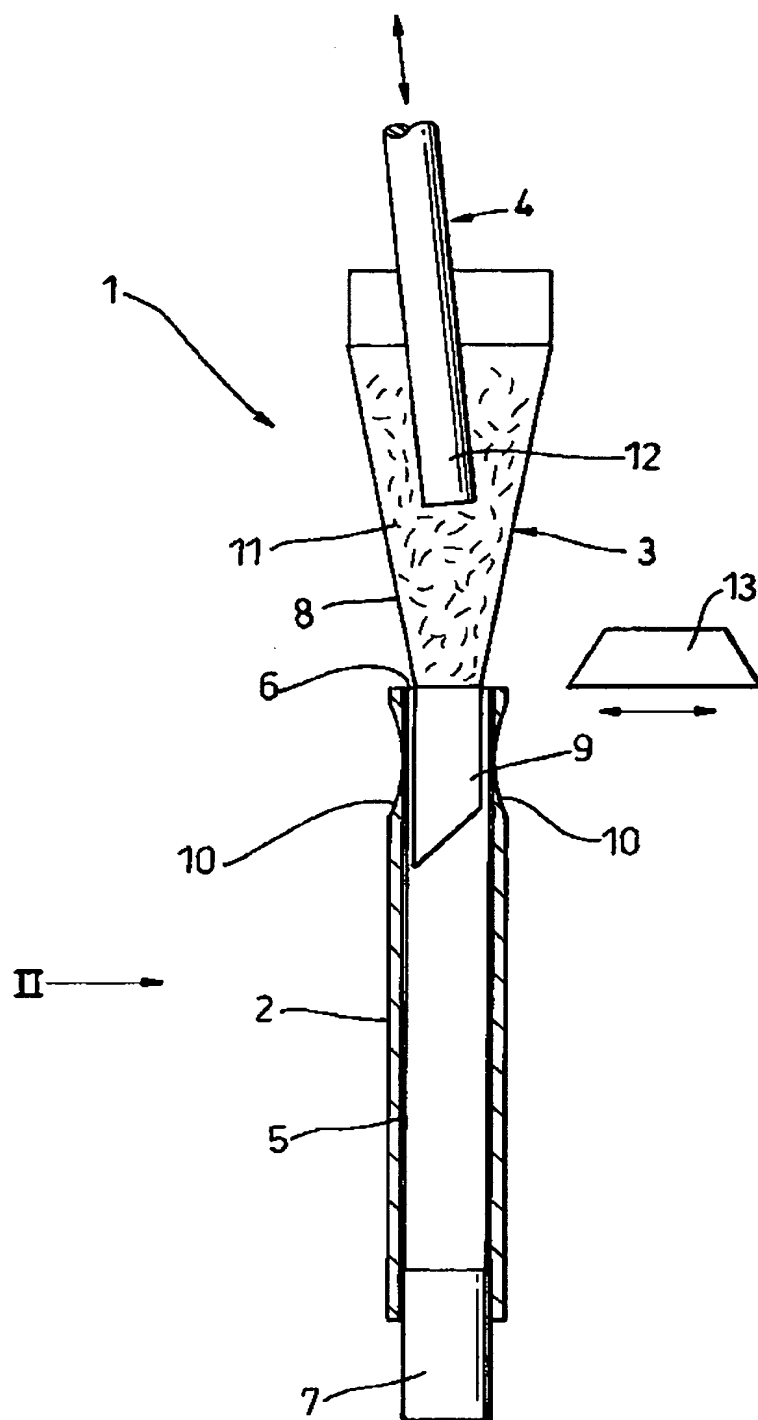


Fig. 1

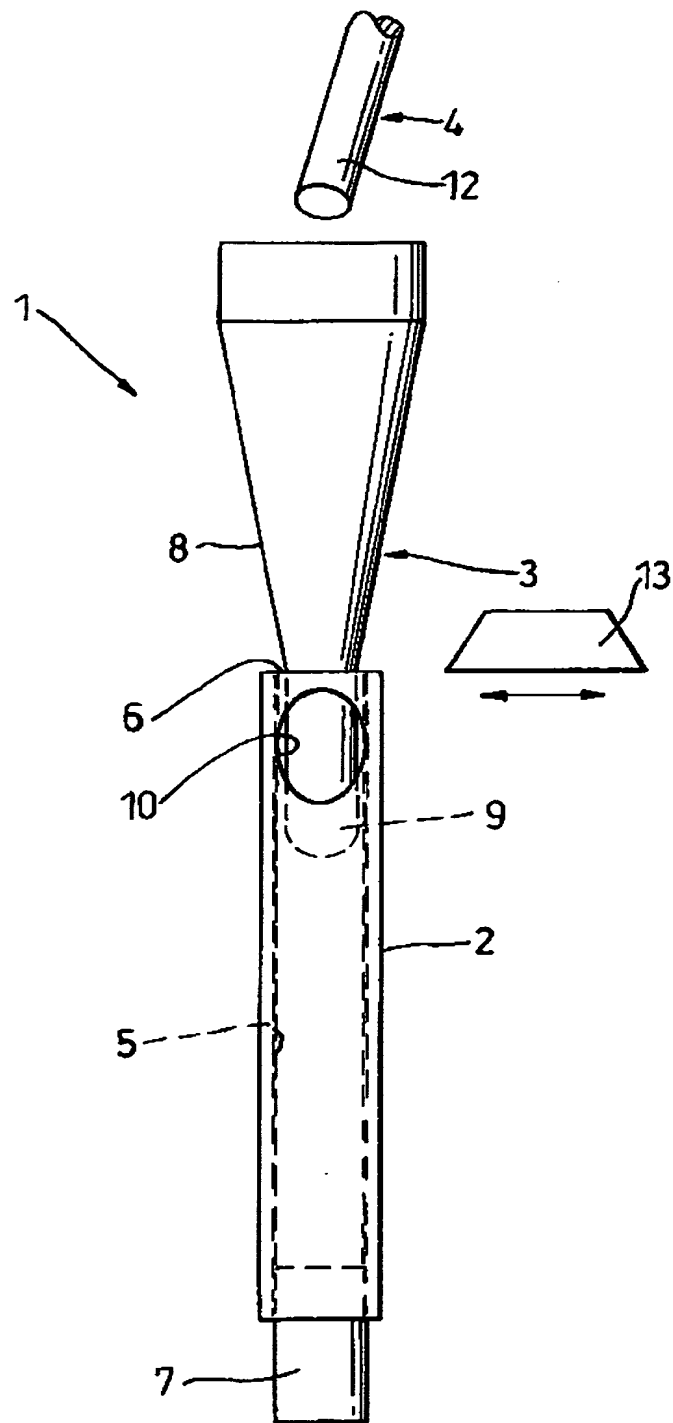


Fig. 2



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EUROPEAN SEARCH REPORT

Application Number
EP 02 01 3545

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The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 11 March 2003	Examiner Pille, S
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons</p> <p>& : member of the same patent family, corresponding document</p>			

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EUROPEAN SEARCH REPORT

Application Number
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**ANNEX TO THE EUROPEAN SEARCH REPORT
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